

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Previously Presented) A surgical probe, comprising:
 - a relatively short, relatively stiff shaft defining a distal portion and a proximal portion;
 - an electrical conductor defining a conductor diameter extending through the shaft;
 - an inflatable, energy transmitting lesion formation element associated with the distal portion of the shaft that allows substantially no liquid perfusion therethrough, at least a portion of the inflatable, energy transmitting lesion formation element being microporous; and
 - an electrode, which defines an electrode diameter that is substantially larger than the conductor diameter, located within the inflatable, energy transmitting lesion formation element and operably connected to the electrical conductor.
2. (Canceled)
3. (Original) A surgical probe as claimed in claim 1, wherein the relatively short shaft is malleable.
4. (Original) A surgical probe as claimed in claim 3, wherein the proximal portion of the relatively short shaft is stiffer than the distal portion of the relatively short shaft.
5. (Canceled)

6. (Previously Presented) A surgical probe as claimed in claim 1, wherein the inflatable, energy transmitting lesion formation element includes a distally facing energy transmission region.

7. (Original) A surgical probe as claimed in claim 6, wherein the energy transmission region is annularly shaped.

8. (Original) A surgical probe as claimed in claim 7, wherein the energy transmission region surrounds a non-conductive region.

9. (Previously Presented) A surgical probe as claimed in claim 6, wherein the inflatable, energy transmitting lesion formation element includes a proximally facing non-conductive region.

10. (Previously Presented) A surgical probe as claimed in claim 1, wherein the inflatable, energy transmitting lesion formation element includes an energy transmission region and a non-conductive region and at least one of the energy transmission region and the non-conductive region define a color that visually distinguishes it from the other of the energy transmission region and the non-conductive region.

11. (Previously Presented) A surgical probe as claimed in claim 1, wherein the inflatable, energy transmitting lesion formation element is mounted on the distal portion of the shaft.

12. (Previously Presented) A surgical probe, comprising:
a relatively short, relatively stiff shaft defining a distal portion, a distal end and a proximal portion;
an inflatable, energy transmitting lesion formation element associated with the distal portion of the shaft that allows substantially no liquid perfusion therethrough;
and
a needle slidably mounted within the shaft and movable relative to the shaft such that a distal portion of the needle extends outwardly from the distal end of the shaft, the inflatable, energy transmitting lesion formation element being mounted on the distal portion of the needle.

13. (Previously Presented) A surgical probe as claimed in claim 12, wherein the needle comprises a plurality of needles and the inflatable, energy transmitting lesion formation element comprises a plurality of inflatable, energy transmitting lesion formation elements respectively mounted on the plurality of needles.

14. (Original) A surgical probe as claimed in claim 12, wherein the distal portion of the needle defines a preset curvature.

15. (Previously Presented) A surgical probe system, comprising:
a surgical probe including a relatively short, relatively stiff shaft defining a distal portion and a proximal portion, an electrical conductor defining a conductor diameter extending through the shaft, an inflatable, energy transmitting lesion formation element associated with the distal portion of the shaft that allows substantially no liquid perfusion therethrough, at least a portion of the inflatable, energy transmitting lesion formation element being microporous, and an electrode, which defines an electrode diameter that is substantially larger than the conductor diameter, located within the inflatable, energy transmitting lesion formation element and operably connected to the electrical conductor; and

a fluid source operably connected to the inflatable, energy transmitting lesion formation element and adapted to maintain pressure within the inflatable, energy transmitting lesion formation element at a predetermined level.

16. (Original) A surgical probe system as claimed in claim 15, wherein the relatively short shaft is malleable.

17. (Canceled)

18. (Previously Presented) A surgical probe system as claimed in claim 15, wherein the inflatable, energy transmitting lesion formation element includes a distally facing energy transmission region.

19. (Previously Presented) A surgical probe system as claimed in claim 15, wherein the distally facing energy transmission region is annularly shaped.

20. (Original) A surgical probe system as claimed in claim 19, wherein distally shaped energy transmission region surrounds a non-conductive region.

21. (Previously Presented) A surgical probe system as claimed in claim 15, further comprising a pressure sensor adapted to determine the pressure within the inflatable, energy transmitting lesion formation element.

22. (Original) A surgical probe system as claimed in claim 21, wherein the pressure sensor is associated with the fluid source.

23. (Previously Presented) A surgical probe system as claimed in claim 15, wherein the fluid source comprises a pump.

24. (Previously Presented) A surgical probe system as claimed in claim 15, wherein the fluid source continuously infuses fluid to and receives ventilated fluid from the inflatable, energy transmitting lesion formation element.

25. (Previously Presented) A surgical probe system as claimed in claim 15, wherein the inflatable, energy transmitting lesion formation element is mounted on the distal portion of the shaft.

26. (Previously Presented) A surgical probe system, comprising:
a surgical probe including a relatively short, relatively stiff shaft defining a distal portion, a distal end and a proximal portion and an inflatable, energy transmitting lesion formation element associated with the distal portion of the shaft that allows substantially no liquid perfusion therethrough;
a fluid source operably connected to the inflatable, energy transmitting lesion formation element and adapted to maintain pressure within the inflatable, energy transmitting lesion formation element at a predetermined level; and
a needle slidably mounted within the shaft and movable relative to the shaft such that a distal portion of the needle extends outwardly from the distal end of the shaft, the inflatable, energy transmitting lesion formation element being mounted on the distal portion of the needle.

27. (Previously Presented) A surgical probe system as claimed in claim 26, wherein the needle comprises a plurality of needles and the inflatable, energy transmitting lesion formation element comprises a plurality of inflatable, energy transmitting lesion formation elements respectively mounted on the plurality of needles.

28. (Original) A surgical probe system as claimed in claim 26, wherein the distal portion of the needle defines a preset curvature.

29-32. (Canceled)

33. (Previously Presented) A surgical probe, comprising:
a hollow needle; and
a therapeutic assembly, located within the hollow needle and movable relative thereto, including a relatively short shaft defining a distal portion and a proximal portion, an inflatable, energy transmitting therapeutic element associated with the distal portion of the shaft and a hollow stylet movable relative to the relatively short shaft, the relatively short shaft being located within the stylet.

34-35. (Canceled)

36. (Previously Presented) A surgical probe as claimed in claim 33, wherein the hollow needle defines a preset curvature.

37. (Previously Presented) A surgical probe as claimed in claim 33, wherein the inflatable, energy transmitting therapeutic element comprises an inflatable, energy transmitting lesion formation element.

38. (Canceled)

39. (Currently Amended) A surgical probe system, comprising:
a surgical probe including
a relatively short shaft defining a distal portion and a proximal portion,
an inflatable, ~~energy transmitting~~ therapeutic element ~~that causes tissue to be heated~~ associated with the distal portion of the shaft, defining an internal fluid storage volume and having at least a portion thereof formed from a porous material that permits ionic transfer when the pores are filled with electrically conductive fluid,
an electrode located within the internal fluid storage volume,

an infusion lumen that extends proximally from the inflatable ~~energy transmitting~~ therapeutic element, and

a ventilation lumen that extends proximally from the inflatable ~~energy transmitting~~ therapeutic element; and

~~a cooling~~ an electrically conductive cooling fluid source operably connected to the surgical probe and adapted to maintain pressure within the inflatable therapeutic element at a predetermined level and to continuously infuse electrically conductive cooling fluid to ~~a volume within the inflatable, energy transmitting therapeutic element~~ the internal fluid storage volume by way of the infusion lumen and draw cooling fluid from ~~a volume within the inflatable, energy transmitting therapeutic element~~ the internal fluid storage volume by way of the ventilation lumen during a tissue heating procedure.

40. (Canceled)

41. (Currently Amended) A surgical probe system as claimed in claim 39, wherein the electrically conductive cooling fluid source cools the inflatable ~~energy transmitting~~ therapeutic element such that heat is only generated within tissue by virtue of the passage of current therethrough.

42. (Currently Amended) A surgical probe system as claimed in claim 39, wherein the inflatable ~~energy transmitting~~ therapeutic element comprises ~~a inflatable, energy transmitting~~ an inflatable lesion formation element.

43. (Currently Amended) A surgical probe system as claimed in claim 39, wherein the inflatable ~~energy transmitting~~ therapeutic element is configured to allow substantially no liquid perfusion therethrough.

44. (Previously Presented) A surgical probe system as claimed in claim 39, wherein the relatively short shaft is malleable.

45. (Currently Amended) A surgical probe system as claimed in claim 39, wherein at least a portion of the inflatable, ~~energy-transmitting~~ therapeutic element comprises micropores.

46. (Currently Amended) A surgical probe system as claimed in claim 39, further comprising a pressure sensor adapted to determine the pressure within the inflatable, ~~energy-transmitting~~ therapeutic element.

47. (Currently Amended) A surgical probe system as claimed in claim 46, wherein the pressure sensor is associated with the electrically conductive cooling fluid source.

48. (Currently Amended) A surgical probe system as claimed in claim 39, wherein the electrically conductive cooling fluid source comprises a pump.

49. (Currently Amended) A surgical probe system as claimed in claim 24, wherein the fluid source is operably connected to the inflatable, ~~energy-transmitting~~ lesion formation element by an infusion lumen and a ventilation lumen.

50. (Currently Amended) A surgical probe system, comprising:
a relatively short, relatively stiff shaft defining a distal portion and a proximal portion;
an electrode carried on the distal portion of the shaft;
means, associated with the distal portion of the shaft, for inflating and transmitting current from the electrode to tissue at a level sufficient to cause the formation of lesions without substantial liquid perfusion; and
means for continuously infusing and ventilating electrically conductive cooling fluid to and from a volume within the means for inflating and transmitting current.

51. (Currently Amended) A surgical probe system as claimed in claim 50, wherein the relatively short shaft is malleable.

52. (Currently Amended) A surgical probe system as claimed in claim 51, wherein the proximal portion of the relatively short shaft is stiffer than the distal portion of the relatively short shaft.

53. (Currently Amended) A surgical probe system as claimed in claim 50, wherein the means for inflating ~~and forming lesions in tissue~~ and transmitting current from the electrode to tissue at a level sufficient to cause the formation of lesions without substantially liquid perfusion is mounted on the distal portion of the shaft.

54. (Currently Amended) A surgical probe system, comprising:
a surgical probe including a relatively short shaft defining a distal portion and a proximal portion and an inflatable ~~, energy transmitting therapeutic lesion formation~~ element ~~that causes tissue to be heated~~ associated with the distal portion of the shaft and adapted to form lesions in tissue; and

~~a cooling~~ an electrically conductive cooling fluid source operably connected to the inflatable ~~, energy transmitting therapeutic lesion formation~~ element and adapted to maintain pressure within the inflatable ~~therapeutic lesion formation~~ element at a predetermined level and to continuously infuse and ventilate electrically conductive cooling fluid to and from a volume within the inflatable ~~, energy transmitting therapeutic lesion formation~~ element during a ~~tissue heating~~ lesion formation procedure;

wherein at least some of the continuous ventilation of the cooling fluid occurs in a manner other than perfusion through the inflatable ~~therapeutic lesion formation~~ element.

55. (Currently Amended) A surgical probe system as claimed in claim 54, wherein the electrically conductive cooling fluid source cools the inflatable, ~~energy transmitting therapeutic~~ lesion formation element such that heat is only generated within tissue by virtue of the passage of current therethrough.

56. (Canceled)

57. (Currently Amended) A surgical probe system as claimed in claim 54, wherein the inflatable, ~~energy transmitting therapeutic~~ lesion formation element is configured to allow substantially no liquid perfusion therethrough.

58. (Previously Presented) A surgical probe system as claimed in claim 54, wherein the relatively short shaft is malleable.

59. (Currently Amended) A surgical probe system as claimed in claim 54, wherein at least a portion of the inflatable, ~~energy transmitting therapeutic~~ lesion formation element comprises micropores.

60. (Currently Amended) A surgical probe system as claimed in claim 54, further comprising a pressure sensor adapted to determine the pressure within the inflatable, ~~energy transmitting therapeutic~~ lesion formation element.

61. (Currently Amended) A surgical probe system as claimed in claim 60, wherein the pressure sensor is associated with the electrically conductive cooling fluid source.

62. (Currently Amended) A surgical probe system as claimed in claim 54, wherein the electrically conductive cooling fluid source comprises a pump.

63. (New) A surgical probe system as claimed in claim 39, wherein the electrode defines an electrode diameter, the surgical probe system further comprising:

an electrical conductor, defining a conductor diameter that is substantial less than the electrode diameter, extending through the shaft and operably connected to the electrode.

64. (New) A surgical probe system as claimed in claim 39, wherein the electrically conductive cooling fluid source is adapted to continuously infuse and ventilate at least one of hypertonic saline cooling fluid and hypertonic potassium chloride cooling fluid.

65. (New) A surgical probe system as claimed in claim 39, wherein the electrically conductive cooling fluid source is adapted to continuously infuse and ventilate electrically conductive cooling fluid with an electrical resistivity of about 5 ohm-cm.

66. (New) A surgical probe system as claimed in claim 50, wherein the electrode defines an electrode diameter, the surgical probe system further comprising:

an electrical conductor, defining a conductor diameter that is substantial less than the electrode diameter, extending through the shaft and operably connected to the electrode.

67. (New) A surgical probe system as claimed in claim 50, wherein the means for continuously infusing and ventilating comprises means for continuously infusing and ventilating at least one of hypertonic saline cooling fluid and hypertonic potassium chloride cooling fluid to and from a volume within the means for inflating and transmitting current.

68. (New) A surgical probe system as claimed in claim 50, wherein the means for continuously infusing and ventilating comprises means for continuously infusing and ventilating electrically conductive cooling fluid with an electrical resistivity of about 5 ohm-cm to and from a volume within the means for inflating and transmitting current.

69. (New) A surgical probe system as claimed in claim 54, further comprising:
an electrode defining an electrode diameter carried by the shaft and located within the inflatable lesion formation element;

an electrical conductor, defining a conductor diameter that is substantial less than the electrode diameter, extending through the shaft and operably connected to the electrode.

70. (New) A surgical probe system as claimed in claim 54, wherein the electrically conductive cooling fluid source is adapted to continuously infuse and ventilate at least one of hypertonic saline cooling fluid and hypertonic potassium chloride cooling fluid.

71. (New) A surgical probe system as claimed in claim 54, wherein the electrically conductive cooling fluid source is adapted to continuously infuse and ventilate electrically conductive cooling fluid with an electrical resistivity of about 5 ohm-cm.